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ABSTRACT

National policy makers have put forth different life cycle planning proposals for the more satisfying integration of education, work and leisure over the life course. This speech describes a decision making scheme, the Time Paradigm, for researched-based choice among various proposals. The scheme is defined in terms of a typology of time-related concepts of sequence, duration, rate, rhythm, recurrence, routine, synchronization, age, period, and cohort in an integrated method. The model's comparative analysis of: the Sugarman Sabbatical Plan, the Gosta Rehn Public Insurance System, the Santa Clara "Cafeteria Plan" and the Marziale Flexible Retirement Plan test its practical applicability. The Time Paradigm selects the Santa Clara Plan because of its potential for dealing with the life course problems of all age groups, as well as those of the elderly, as the preferred plan for national implementation. (Author/LS)

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TIME AS A TOOL FOR POLICY ANALYSIS IN AGING

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Recently, in the pages of The American Sociological Review, a three-year debate on the "futile quest" of statistical attempts to separate age, period and cohort effects, culminated in a comment by Norval Glenn (1976:900):

The great bulk of the literature on cohort analysis is devoted to methods or attempts to separate statistically age, period and cohort effects. The effects are named for the kinds of influences which produce them; age effects are produced by influences associated with the aging process, period effects by influences associated with each period of time and cohort effects by influences associated with membership in each birth cohort. Regardless of how cohort data are examined, two kinds of effects are confounded with one another, age and cohort effects are confounded in cross-sectional data by age, age and period effects in intra-cohort trend data, and period and cohort effects in trend data for each age level. . . . a strictly statistical solution to the age-period-cohort problem is not possible. . . . mechanical, atheoretical cohort analysis depends at least as much on knowledge of theories of aging and of recent history as on technical expertise. (Emphasis mine.)

Were statisticians and sociologists, reading this and similar messages in the literature, to turn immediately to us gerontologists for expertise on "theories of aging," we would find ourselves in an embarrassing position. Lacking comprehensive theory in social gerontology, we too are at a loss to make sense out of life course data which invariably confound the time effects of age (or maturation), period (or time of measurement) and cohort. It is, therefore, the purpose of this paper to set forth a heuristic set of concepts, in the form of a time-based paradigm, as a step toward the building of comprehensive theory in aging -- theory which would enable us to adequately analyze life course data and, consequently, develop

a rational scheme for research-based planning and policy in aging.

Although "aging" is a basic temporal concept, time as a conceptual tool for theory building in social gerontology has not been systematically employed. This paucity of temporal concepts exists despite the fact that as early as 1943 Sorokin, in his seminal work on socio-cultural time, introduced a host of concepts which, when modified, I believe show promise for systematic application in life course studies.¹ The temporal concepts are sequence, duration, rate, rhythm, recurrence, routine and synchronization. These concepts, in conjunction with the other temporal concepts of age, period and cohort, and my method for the integration of the concepts, constitute the paradigm I have developed. (See Diagram 1.) The paradigm is put forth as a set of procedures for the unconfounding of time effects in life course data by means of an integration of research methodology with time-based theory in sociology and social gerontology.² The utility of the paradigm, as a research-based policy tool, will be demonstrated in this paper by its application to an understanding of the retirement problem.

The key integrating concept of the paradigm is synchronization. Social change is viewed partially as a function of the degree of synchronization or asynchronization³ between socialization and allocation processes. (Socialization is defined as the learning of expectations and behaviors relevant to roles and positions acquired throughout the life span, and allocation as the distribution of roles and positions throughout social structure.⁴) The "retirement problem" (to the extent that it is a problem) may be offered as an

example of how the paradigm may be applied in policy-relevant research. The retirement role is one the allocation of which is often mandatory. Its allocation, however, is not well synchronized with the socialization processes leading up to retirement, in that extensive and thorough preparation programs for retirement do not exist. This is a type of macrosociological asynchronization.

The antecedents of synchronization/asynchronization may be understood in terms of historical (period or time-of-measurement effects), demographic (cohort effects) and maturational perspectives (age effects). In understanding the consequences of synchronization/asynchronization, the paradigm employs the set of time concepts described by Sorokin as sequence, duration and rate (which I apply to and define in terms of individual role phenomena), and rhythm, recurrence and routine (which may be extended to the phenomena of organizational activity).

To extend the example on the "problem" of retirement, one may seek an understanding of retirement - asynchronization's antecedents in terms of demographic, historical, and maturational "explanations." For example, lack of societal preparation for retirement may be understood in terms of the baby boom cohort's exertion of increasing pressure for jobs (deficient allocation), thereby forcing mandatory retirement with little time for planning preparatory programs. This is a short-based, or demographic, "explanation." Of course, there is an historical argument often put forth: rapid technological change has made and is making the knowledge possessed by older workers increasingly obsolete. Early, unwanted retirement may be seen as one consequence of this trend. It is very important to note, for reasons to be emphasized later that, perhaps,

maturational trends least plausibly explain early, unwanted retirement -- at least to the extent that physical and mental health remain adequate for employment well into advanced old age for many aging individuals.

The paradigm dictates that we also explore the possible consequences of retirement-related asynchronization. The cohort antecedent explanation for early retirement, which also helps explain later entry into the job market on the part of young people (extended adolescence), has consequences for the duration of life course work related roles. The predicted trend is for the length of careers to be shortened. To the extent that technological change makes knowledge and skills increasingly obsolete (the historical antecedent explanation), the career line sequence of promotions is interrupted, with the very top statues being eliminated for many individuals. Rate of movement through the promotion sequence is, of course, slowed.

On the social structural level, change in the duration of the work cycle has consequences for the overall rhythm of social life, with significant social phenomena, e.g., the average age of entry into the job market, occurring at different times. Routines within the institutions of education, work and leisure must, as a consequence, adjust. To the extent that a period of extended adolescence fosters adolescents' looking for temporary job opportunities before permanently entering the job market and to the extent that workers begin to prepare for early retirement, increasing their present levels of leisure time and education; periods of work, education and recreation are likely to recur throughout the life course rather than remain in their present fixed sequence of education, work and recreation-leisure (retirement).

I have applied this type of analysis to asynchronization problems related to roles less formally allocated and socialized than the retirement role, e.g., the leisure participant role among American elderly. Time does not permit me to continue with examples; however, I hope that I have demonstrated that application of the time concepts of the paradigm leads us to the organization of different, and often complementary, explanations and understanding of aging phenomena. Of course, the basic principles of theory building must be applied to choose among them or state the need for additional explanations.

By contributing to theory building in social gerontology, the Time Paradigm also contributes to a solution of the problem of confounded age, cohort and history effects. As noted previously, even the most sophisticated analysis of variance procedures (Schaie, 1965) succeed in unconfounding only two of the three time effects for any given analysis. For example, Schaie's time sequential model offers a net age effect, a net period effect, but leaves us to make the assumption that cohort differences are theoretically unimportant. Likewise, his cohort-sequential and cross-sequential models force the researcher to assume the unimportance of historical effects and age effects, respectively. When these models for data analysis are applied blindly, i.e., atheoretically, results are uninterpretable. The Time-Paradigm, however, stipulates that within any set of complementary or alternative explanations for a given asynchronization-related aging phenomenon, at least one explanation be put forth based on maturational age changes, one explanation be put forth based on cohort differentials and one explanation be put forth based on historical changes. An assessment of the theoretical

plausibility of each explanation would then aid in the choice among time-sequential, cohort-sequential, or cross-sequential methodological strategies. In the brief example on retirement given previously, the maturational explanation seemed the least plausible. That datum alone would call for use of a cross-sequential model for analysis. At the level of antecedents, therefore, the paradigm fosters the integration of theory and methods in social gerontology.

At the paradigmatic level of consequences, integrated theory and methods is established as a firm base for policy and planning in aging. Despite the connotations of terms used to describe the Time Paradigm, the system implied in the paradigm is recursive and allows for causal flow from the variables listed under "consequences" to the variable listed under "antecedents." Any theoretical model has policy relevance to the extent that the variables its concepts imply are manipulable. The paradigm's "consequences" variables are manipulable. In the past, legislation has affected the duration of roles and positions, the sequence in which they are taken on, and the rate at which individuals are allowed to move through an entire sequence. In this regard, consider the impact of selective service legislation, mandatory education laws, and compulsory retirement laws on the temporal aspects of role performance. In the future, theoretical understanding of the mutual effects of one Time-paradigm variable on another, or one set of Time-paradigm variables on another, could guide legislation toward the goal of adjusting the temporal aspects of role performance in a manner which compensates for macro-sociological asynchronization. Does not mandatory

retirement legislation presently attempt to do just that? The goal of policy derived from informational analyses based on the Time-Paradigm would be, therefore, the facilitation of social and personal adjustment by the elderly to the problems of retirement, widowhood and leisure, related to asynchronization between allocation and socialization processes.

The "consequences" aspect of the Time Paradigm facilitates policy making in aging, or rational choice among alternative directives for the attainment of specific objectives in life course planning, by offering a common conceptual language with which alternative directives, from a diversity of perspectives, can be rephrased and, therefore, more readily compared. This is true in that temporal conceptual schemes are implicit in all modes of policy analysis in the area of aging.

A brief and necessarily limited examination of policy proposals in the area of aging, disseminated by the Center for Policy Process (1977), will now be made for the purpose of demonstrating the utility of the Time Paradigm as an evaluative model for the assessment of policy alternatives in terms of their likely impact on individuals and social structure. The five proposals I will discuss share as their basic goal the bringing about of a more personally and socially beneficial use of work, education and leisure throughout the life course.

The Julie M. Sugarman plan proposes that workers be allowed a sabbatical every 10 years, to be financed by annual 6% payroll deductions. Such a plan would help make more cyclic the traditional linear sequence of education, work and leisure (retirement) roles

by allowing for more education and leisure than normally acquired during the work years. Extended would be the duration of education- and leisure-related roles, but the rate at which one moves through the work-devoted segment of the lifespan would be little affected. A new routine would be introduced into the organization of work were this system widely adopted. Sabbaticals would recur every 10 years for individuals but would have to be planned for by management on a continual basis. The total result may very well be the imposition of a new rhythm on organizational life and on career span activity -- much in the same way that holidays declared during the 20th Century imposed a new rhythm on the work year. This new rhythm would approximate and, therefore, facilitate cyclic life planning and to that extent facilitate the integration of socialization and allocation processes.

Because those on sabbatical may use their time off for any purpose, the potential for retraining to deal with knowledge obsolescence in one's job is an important possibility to consider. The opportunity for retraining would facilitate socialization to the work role during the latter half of the work span -- a time during which lack of continued socialization may lead to lower job satisfaction and self-esteem because of the rapid pace of technological change in most industries. The potential also exists for use of the one year for general education and other leisure pursuits. The use of time in this manner would facilitate anticipatory socialization to retirement by periodically offering lengthy periods of free time to workers before retirement. Such acclimation periods may prove to be very important for the restructuring of free time as leisure time during the last 1/3 of the life span. Socialization-allocation synchronization

would be facilitated to the extent that workers become better prepared for the retirement role when it is formally allocated.

Gosta Rehn has proposed a public insurance system based on transfer of income among different periods of life of the individual. Each individual would be credited with an account containing a specific amount of funds to cover unemployment, welfare, education and pension needs during his or her life time and the account may be drawn upon to cover extended periods of "creative non-employment."

The Rehn public insurance, transfer of income system would contribute to a cyclic modification of the traditional linear sequence of education, work and leisure roles. Under this plan, however, greater control would be extended over the duration of education and leisure roles and over the rate at which one moves through the work-devoted segment of the life span than under the Sugarman plan. Within the resources of the insurance fund, one is free to take leaves of absence from work for periods of time greater than or less than one year and at frequencies greater than or less than every 10 years. In addition, to the extent that one conserves funds, drawings on the pension fund may begin earlier than at the traditional retirement age, and, therefore, lead to a shortening of the work span. To the extent that one makes liberal use of the leave-of-absence provisions, retirement per se may be indefinitely postponed, therefore, lengthening the work span while at the same time probably increasing job satisfaction.

This plan would also introduce a new routine into the organization of work; however, because the recurrence of leaves is based on individual decision, the rhythm imposed on organizational activity will be more erratic and less predictable than that imposed by the

Sugarman plan. The ability of management to plan and compensate for leaves would be taxed and, consequently, the feasibility of the Rehn plan is to be seriously challenged. Like the Sugarman plan, Rehn's proposed insurance system facilitates socialization-allocation synchronization in regard to work adjustment during the latter parts of the work span and in regard to retirement and the use of leisure time. However, the Sugarman plan would be more likely than the Rehn plan to improve work allocation to those seeking part-time employment or apprenticeships. This may prove to be the case because given its greater Rhythmic predictability, the Sugarman plan facilitates hiring and training plans aimed at the unemployed needed to take the place of those on leave. Of the two, therefore, the Sugarman plan better integrates socialization-allocation processes in regard to work training.

The Santa Clara County "Cafeteria" Plan allows workers to trade in percentages of their income (up to 20%) for time off from work in addition to vacation (up to two 21-day periods during one Year). This plan seems more restrictive than either the Sugarman or Rehn plans in that work, education and leisure role sequences become modifiable only within a one-year cycle. Control over the duration of leisure-related roles is minimal and the rate at which one moves through the work-devoted segments of the life span is unaffected.

This plan too introduces a new routine into the organization of work; however, the recurrence of leaves is more predictable than under the Rehn plan. The "Cafeterial Plan" does not so much impose a new rhythm on organizational life as it does add variation to the rhythm of the work year already established by existing holidays and

traditional vacation allowances. Like the Sugarman plan it facilitates work allocation to those seeking part-time jobs because of its predictability. However, because leave periods are short in duration under the "Cafeteria Plan," the plan is not likely to create much work, nor is it likely to create opportunities for apprenticeships. Of the three, this plan is probably least likely to facilitate lifetime socialization-allocation synchronization. Because the worker is very aware of the fact that he or she has traded in income for free time, that time is not likely to be used for voluntary job re-training. Use of the free time for leisure pursuits is probable but, nevertheless, not likely to socialize or prepare one for retirement, in that blocks of time larger than 21 days would be necessary to simulate retirement and, therefore, acclimate one to retirement.

The Marziale Flexible Retirement Plan is one which allows older workers the option of combining a partial pension plan with part-time or reduced work hours. Unlike the other plans, this one does not call for significant modification of the linear sequence of education, work and leisure (retirement) life-time roles. It places its emphasis, rather, on shortening the duration of work-related roles, lengthening the duration of retirement and leisure related roles and modifying the rate at which one moves through the work-devoted segment of the life span by allowing for a gradual movement into retirement.

Routine within the organization of work is affected little. What change in individual routine that may occur will be largely experienced by older cohorts of workers as they begin to work less hours of time weekly. The major event which the Marziale plan facilitates, gradual

retirement, is not a recurrent phenomenon. The other three plans do stress recurrent phenomena with their emphases on leaves and vacations. Therefore, the rhythm of organizational life is changed little by the Marziale plan. The down beat between work and retirement is, however, more subdued. The Marziale plan is explicitly designed to facilitate socialization-allocation synchronization in regard to retirement. The gradually decreasing period of part-time work between full-time work and retirement creates a social condition which is very likely to increase the success of pre-retirement socialization. The gradual increase of free time allows workers to test out leisure roles and pursue further education and, therefore, make better use of free time when it arrives in abundance during retirement. Because large blocks of part-time work will be freed-up by older workers in a highly predictable manner, the plan should improve the allocation of jobs to those seeking part-time work or apprenticeships in various industries.

Interestingly, this plan facilitates socialization-allocation synchronization in regard to retirement without introducing a notion of cyclic life planning, i.e., the linear sequence of education, work and leisure roles is not tampered with. However, the Marziale Plan's failure to introduce a mechanism to vary the sequence of these lifetime roles limits its utility in the area of socialization-allocation synchronization in regard to work. The increase in free time offered by this plan occurs at a stage in the career span when this time's use for job-retraining or career change would be unlikely. Therefore, the Marziale Plan also suffers in comparison to the Sugarman plan.

Fred Best and Barry Stern, researchers also doing work in the area of life course planning, do not offer one specific proposal for the life-time redistribution of education, work and leisure; rather, they argue that any plan which incorporates cyclic life planning will simultaneously deal with many problems related to education, work and leisure. As the previous analyses of the four specific proposals, using the time paradigm, indicates, this is not necessarily the case. The Rehn Public Insurance Plan is limited in its ability to allocate part-time work and apprenticeships in spite of its cyclic nature, and the feasibility of its implementation is limited because of it. The Santa Clara Plan is also limited in its work allocation features despite its cyclic aspects and, in addition, does not contribute to job-retraining, career change or socialization to retirement. Further, the Marziale Flexible Retirement Plan shows a potential for facilitating socialization to retirement despite the fact that it does not incorporate a cyclic life plan.

The basic problem with the Best and Stern model is that it does not explicitly incorporate temporal dimensions beyond a concern with role "sequence." The time paradigm sketched out in this document explicitly incorporates the temporal dimensions of "duration," "rates," "routine," "recurrence," "rhythm," and "synchronization" as well as "sequence" for policy analysis in the field of aging. In addition, it incorporates the temporal dimensions of "age," "cohort" and "time-of-measurement" to improve the quality of empirical research used as a basis for policy development.

The application of the Time Paradigm for the comparative analysis of the Sugarman, Rehn, Santa Clara County and Marziale proposals leads to the conclusion that the directives embodied in the Sugarman proposal are most likely to lead to the attainment of aging policy objectives related to work, education and leisure (retirement). The Time-based Paradigm offered a conceptual language which facilitated the comparison of these proposals. It contains dimensions in the areas of policy research methodology, policy consequences for individual role-related behavior, policy consequences for organizational structure and change, and policy-facilitating theory for understanding policy consequences for problems relating to the socialization to and allocation of educational, occupational and leisure roles and opportunities. Lest policy analysis be as limiting as the one the Best and Stern model provides, a tool for policy analysis need be at least as comprehensive as the Time Paradigm. The ultimate goal of the further work proposed to be done in the development of the time paradigm is, therefore, nothing less important than a contribution to the science of policy making for and with the elderly.

FOOTNOTES:

¹ An important conceptualization of social time, distinct from chronological time, stems from Sorokin's understanding of sociocultural time (1943). Chronological time, or the time of classical mechanics, according to Sorokin, is continuous, infinitely divisible, uniformly flowing, purely quantitative, and devoid of any qualities. On the other hand, sociocultural time conceives and measures sociocultural phenomena - their duration, synchronicity, sequence, and change - in terms of other sociocultural phenomena taken as the point of reference. It does not flow evenly in the same group and in different societies. The moments of sociocultural time are uneven and contain eventful and critical moments as well as stretches of empty duration. Sociocultural time is not infinitely divisible. Sorokin notes the example of renting a room: it may be rented for a month, a week, a day, but rarely by the hour or the minute. Sociocultural time is qualitative and its basic function is the synchronization and coordination of social activities in order to maintain continuity, orientation and give rhythm to social life.

² At least two other viable approaches exist, I believe, to the unconfounding of time effects in life course data. One approach would employ subjective measures of time. Those who struggle with problems in cohort analysis do so, in part, because the time effects are measured objectively and are, therefore mathematically interdependent. Need age be defined chronologically? Need history or period be defined as time of measurement? Need cohort be defined as time of birth? The extent to which we are able to move away from these quantitative measures of time, is the extent to which we will be able to break the mathematical interdependence of the measures and, therefore, approach an analysis which unconfounds the three basic dimensions for analytical purposes. Mannheim (1929), for example, favors the use of subjective criteria for understanding the impact of cohort-related phenomena and prefers the term "generation" (the "experiences of common influences"). More important than calendar date as time of measurement (or period) is the need to know how historical events have impact on the individual, i.e., his subjective reactions. Focused interviewing would be one method that may be employed in this regard. Finally, chronological age in many analyses should be replaced by measures of biological, psychological or sociological age, each of which may be weakly correlated with chronological age and be much more appropriate theoretically.

A second approach would assume an interactive model for analysis. A given analysis of variance model will confound one time effect (age, cohort or period) with the other two. The same analysis offers a set of interaction effects. To the extent that it is theoretically meaningful to view one time effect as an interaction of the other two, it would seem valid to use the interaction effect of any

two time factors as an unconfounded estimate of the third. For example, it would seem reasonable to view cohort effect as the interaction of history and age for many analyses.

³The temporal term "asynchronization" has been applied in the field of aging before, but not in the sense that it is being applied in this work. Recently (Seltzer, 1976), the term has been applied to describe time-disordered relationships which arise when an individual's various social spheres and role-sets are not temporally synchronized. In his seminal work on life course sociology, Cain (1964) had devised this definition and wrote of its promise for sociological inquiry in the field of aging. The term, asynchronization, as developed here, is quite different. It perhaps borrows an individual, role-focused element from Cain; however, this element is merged with the macro-sociological interests of Sorokin, who viewed asynchronization as lack of coordination among social activities, to develop a social psychological concept of a synchronization as one which occurs between socialization and allocation processes.

⁴Despite Riley, Johnson and Foner's heuristic comments (1972) on the need for understanding the phasing of socialization and allocation processes, there has been no systematic attempt in social gerontology to understand the aging process as a complex temporal function of socialization and allocation process. The concepts of synchronization and asynchronization should prove to be helpful tools in this regard.

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